Claims:

1-5 (cancelled)

6. (Currently amended) A process for preparing a multi-functional polymer comprising the steps of:

preparing a multi-functional macroinitiator by reacting a short-chain living polymer with a molar deficiency of a macroinitiator linking agent defined by the formula

$$C{=}C{-}R'{-}C^*{-}X$$

$$C{=}C{-}R^1{-}C^*{-}X$$

where X is a leaving group, C^* is a carbon atom susceptible to nucleophilic attack, and [[R]] R^1 is an organic group that will impact the double bond in a manner that will allow the double bond to be anionically polymerized, where the short-chain living polymer is characterized by a length that is longer than 0.05 of the entanglement length and shorter than 1.5 of the entanglement length; and

polymerizing monomer with the multi-functional macroinitiator.

7. (Original) The process of claim 6, where the molar deficiency includes from about 0.55 to about 0.95 moles of macroinitiator linking agent per mole of short-chain living polymer.

8. (Original) The process of claim 6, where the macroinitiator linking agent is vinylbenzyl chloride.

9. (Cancelled)

10. (Original) The process of claim 6, where the monomer is conjugated diene monomer.

11. (Original) The process of claim 10, where the monomer further includes styrene.

12-19 (Cancelled)

20. (New) The process of claim 6, where the short-chain living polymer is characterized by a length that is less than 1 of the entanglement length.

21. (New) The process of claim 6, where the short-chain living polymer is characterized by a length that is less than 0.7 of the entanglement length.

22. (New) The process of claim 6, where the short-chain living polymer is characterized by a length that is less than 0.5 of the entanglement length.

23. (New) The process of claim 6, where the short-chain living polymer includes a lithium counter cation.

24. (New) The process of claim 6, where the short-chain living polymer includes living polybutadiene.

25. (New) The process of claim 24, where the living polybutadiene has a molecular weight of from about 100 to about 10,000 g/mol as determined by GPC.

26. (New) The process of claim 25, where the living polybutadiene has a molecular weight of from about 200 to about 5,000 g/mol as determined by GPC.

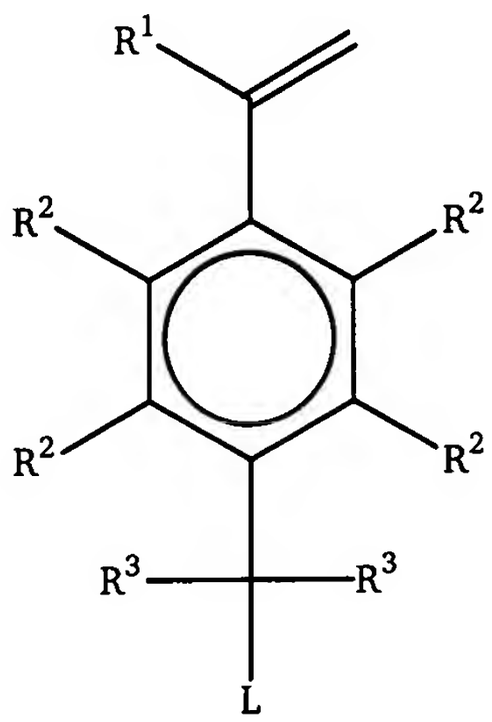
27. (New) The process of claim 26, where the living polybutadiene has a molecular weight of from about 500 to about 4,000 g/mol as determined by GPC.

28. (New) The process of claim 27, where the living polybutadiene has a molecular weight of from about 1,000 to about 3,000 g/mol as determined by GPC.

29. (New) The process of claim 6, where said short-chain living polymer includes a reactive functionality.

30. (New) The process of claim 29, where the reactive functionality derives from polymerizing the short-chain living polymer with an initiator selected from the group consisting of trialkyl tin lithium compounds, cyclic amino lithium compounds, and cyclic aminoalkyllithium compounds.

31. (New) The process of claim 6, where the macroinitiator linking agent is defined by the formula



where R^1, R^2, and R^3, are hydrogen or organic groups, and L is a halogen atom, a sulfanate, or a phenoxide.

32. (New) The process of claim 31, where R^1, R^2, and R^3 are hydrogen or hydrocarbyl groups.

33. (New) The process of claim 6, where the macroinitiator linking agent is vinylbenzyl chloride, propenyl benzyl chloride, vinyl benzyl bromide, or propenyl dimethyl benzyl chloride.

34. (New) The process of claim 7, where the molar deficiency includes from about 0.67 to about 0.95 moles of macroinitiator linking agent per mole of short-chain living polymer.

35. (New) The process of claim 34, where the molar deficiency includes from about 0.75 to about 0.93 moles of macroinitiator linking agent per mole of short-chain living polymer.

36. (New) The process of claim 6, where said step of polymerizing monomer with the multi-functional macroinitiator occurs within an organic solvent.

37. (New) The process of claim 36, where the organic solvent is an aliphatic solvent.